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New Synonyms in *Hortia* and *Dictyloma* (Rutaceae), with Validation of the Name *Hortia badinii*

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Abstract. This work is a part of a taxonomic revision of the Neotropical genus *Hortia* Vand. (Rutaceae), where three names (*H. colombiana* Gleason, *H. chocoensis* Cuatrec., and *H. badinii* M. Lisboa ex Groppo) are proposed as synonyms of *H. brasiliana* Vand. ex DC., and the name *H. badinii* is here validated. Additionally, another name in the Rutaceae, *Dictyoloma peruvianum* Planch., is proposed as a synonym of *D. vandellianum* A. Juss. Notes on the type collection of *D. vandellianum* are provided.

Resumo. Este trabalho é parte de uma revisão taxonômica do gênero neotropical *Hortia* Vand. (Rutaceae), onde três binômios (*H. colombiana* Gleason, *H. chocoensis* Cuatrec. e *H. badinii* M. Lisboa ex Groppo) são propostos como sinônimos de *H. brasiliana* Vand. ex DC., com a validação do nome *H. badinii*. Adicionalmente, um nome na mesma família Rutaceae, *Dictyoloma peruvianum* Planch., é proposto como sinônimo de *D. vandellianum* A. Juss. São também fornecidas notas sobre a coleção-tipo de *D. vandellianum*.

Key words: *Dictyoloma*, *Hortia*, Neotropics, Rutaceae.

Hortia Vand. is a Neotropical genus of Rutaceae traditionally included in the subtribe Toddaliinae, subfamily Toddalioideae (Engler, 1931). Ten species are currently recognized in the genus; these are distributed from Panama to the state of São Paulo in Brazil, but most occur across Amazonia (Groppo et al., 2005). These taxa are trees or shrubs with simple leaves crowded near the apex of the branches; showy, wide corymbose terminal inflorescences; red to pink flowers; and a baccate fruit with abundant oil glands (Groppo et al., 2005; Groppo & Pirani, 2008). During the revision of the genus, three names, *H. colombiana* Gleason, *H. chocoensis* Cuatrec., and *H. badinii* M. Lisboa ex Groppo (validated here), are considered synonyms of *H. brasiliana* Vand. ex DC. Additionally, another name in the Rutaceae, *Dictyoloma peruvianum* Planch., is proposed as a synonym of *D. vandellianum* A. Juss.

Synonymy in *Hortia*

Hortia brasiliana Vand. ex DC., Prodr. (DC.) 1: 732. 1824. TYPE: Brazil. Minas Gerais: [probably near Mariana, see Groppo et al., 2005], s.d., s.n. (holotype, P-JU, photos [F neg. 35742] at IAN, MO).

Hortia colombiana Gleason, Phytologia 1: 25. 1933, syn. nov. TYPE: Colombia. Boyacá: Upper Chapón, 1500–1800 m, 5 Aug. 1932 (fl.), *A. E. Lawrance 392* (holotype, NY; isotypes, BM, F, F neg. 12677, GH, K, MO, MO photo at NY).

Hortia chocoensis Cuatrec., Brittonia 14: 54. 1962, syn nov. TYPE: Colombia. Chocó: Río Negro, betw. Quibdó & Tutunendo, 80 m, 4 Apr. 1958 (fl., fr.), *J. Cuatrecasas & Llano 24210* (holotype, US [3], photo at SPF; isotypes, COL, U, photo at SPF).

Hortia badinii M. Lisboa ex Groppo, sp. nov. *Hortia badinii* M. Lisboa, Revista Esc. Farm., Ouro Preto 3: 7. 1974, nom. inval. TYPE: Brazil. Minas Gerais: Mariana, Demerara, entre Santa Rita Durão e Bento Rodrigues, 14 May 1971 (fl.), *M. A. Lisboa s.n.* (holotype, OUPR 26959).

Discussion. In the description of *Hortia colombiana*, Gleason (1933) commented that his new species was very similar to *H. brasiliana*, a name erroneously applied to a shrubby species from the Brazilian savannas (cerrados), for which the correct name is *H. oreadica* Groppo, Kallunki & Pirani. The name *H. brasiliana* is today properly applied to an arborescent species from eastern Brazil (see Groppo et al., 2005). The characteristics used by Gleason to differentiate *H. colombiana* from *H. brasiliana* included the relatively larger flowers, the petiolate leaves, and the inflorescences without bracts. The shape and measurements of the leaves and petiole of the type of *H. colombiana* (*Lawrance 392*) fall within the range of variation of these characteristics encountered in other collections of *H. brasiliana* from Colombia, Ecuador, Bolivia, Panama, and Brazil. The lack of bracts in the inflorescences of *H. colombiana* reported by Gleason (1933) was not confirmed when the type of this species was examined.

Cuatrecasas (1962), in turn, compared his *Hortia chocoensis* with *H. brasiliana*, the former differing from the latter mainly by the more evident venation, the possession of petiolate leaves, and the smaller,

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obtuse bracts of the inflorescences. Our analysis of the type of *H. chocoensis* (*Cuatrecasas & Llano 24210*) and other collections from Chocó, Colombia, demonstrated that the distinct features of *H. chocoensis* fall within the morphological variation of *H. brasiliana*.

Hortia badinii was described by Lisboa (1974) on the basis of his material collected in Mariana (type) as well as from other exsiccatae from Mariana and Ouro Preto, Minas Gerais, Brazil, and deposited at OUPR (*Badini et al. s.n.*, OUPR 7676, OUPR 22467, and others). According to Lisboa, the name *H. badinii* was applied to individuals of *Hortia* with whitish (rather than pinkish) trichomes on the inner surface of the petals. Evident trichomes on the inner surface of the petals are encountered in all species of *Hortia*, with the exception of *H. nudipetala* Groppo (Groppo & Pirani, 2005). The color of these trichomes can vary from pink to white in fresh flowers of *H. brasiliana*, and morphological analyses and field observations of individuals in the type locality (Mariana, Minas Gerais, Brazil) showed that this species does not merit recognition and is here considered as synonymous with *H. brasiliana*.

Lisboa (1974) did not clearly indicate a collection as the type of his new species *Hortia badinii*, and consequently the name was not validly published. Instead, he states that the holotype was collected near Santa Rita Durão, district of Demerara (a locality in Mariana, Minas Gerais), and was deposited at OUPR. Among the examined collections from OUPR there is one sheet collected by Lisboa himself (*Lisboa s.n.*, OUPR 26959) that is assigned as the holotype of *H. badinii* in sched. This material is here considered to be the holotype of this species and the name is validated here.

Synonymy in *Dictyoloma*

Dictyoloma vandellianum A. Juss., Mém. Mus. Hist. Nat. 12: 499, t. 24 [June] 1825, nom. cons. TYPE: Brazil. [presumed Minas Gerais], s.d., s.n. (holotype, P-JU).

Dictyoloma peruvianum Planch. in Hook., Lond. J. Bot. 5: 583. 1846, syn. nov. TYPE: Peru. s.d., *Mathews 1657* (holotype, K [2]).

Discussion. *Dictyoloma* A. Juss. is the sole genus within the subfamily Dictyolomatoideae of the Rutaceae, as defined by Engler (1931). The genus is currently recognized with two species (e.g., Pirani, 2002), *D. vandellianum*, from eastern Brazil (states of Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, and São Paulo), and *D. peruvianum*, from western South America, including Peru, Ecuador, Bolivia, Argentina (Corrientes Province), and Brazil (states of Acre, Amazonas, Rondônia, and Pará). The two names *D. vandellianum* and *D. peruvianum* are commonly identified in herbaria mainly by their apparent disjunctive geographic distribution rather than the existence of a clear morphological variation. The most striking difference between the types of both names is in the leaves: the type of *D. peruvianum* (*Mathews 1657*) bears leaves with entire, narrower foliolules up to 4.2 × 0.6 cm, which contrasts with the type of *D. vandellianum* deposited at P, which has crenate and wider foliolules (up to 4 × 1.8 cm). Fieldwork carried out in Brazil (states of Bahia, Espírito Santo, and Minas Gerais) has demonstrated, however, that leaves with crenulate or entire foliolules can be found within a single population of *Dictyoloma*, and even within the same individual. Collections with entire or crenulate leaves can be found throughout the geographic range described for these two names. Given this lack of an evident morphological distinction and existence of this morphological continuum, *D. peruvianum* is synonymized under the older name *D. vandellianum*.

In the type collection of *Dictyoloma vandellianum* deposited at P (Jussieu herbarium), there is a small label noting that the material was sent by Vandelli from Lisboa to Jussieu in 1790. It is very likely that the specimen on which Jussieu based his description of *D. vandellianum* was among botanical collections made in Brazil by Joaquim Vellozo (or Veloso) de Miranda, correspondent of the Royal Academy of Sciences (Portugal), who lived in Mariana (Minas Gerais State) in the late 1700s (Urban, 1906: 128). Vellozo sent many botanical collections from Brazil to Vandelli, which were subsequently forwarded to Jussieu, as is the case for the type collection of *Hortia brasiliana* (see Groppo et al., 2005). Thus, the type collection of *D. vandellianum* deposited at P was presumably made near or in Mariana, Minas Gerais State, Brazil, a locality well within the range of the geographic distribution of this species.

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